

**AMENDMENTS TO THE DRAWINGS**

The Recent OA objects to Figure 3b as containing as containing a typographical error, e.g., “Iron” instead of “Jrun.” Replacement drawings are provided with this response correcting that typographical error. The drawings have been reviewed for other errors and none were found.

### REMARKS

#### *Generally*

Claims 29-33 are pending. The amended specification is objected to under 35 U.S.C. §132(a) as introducing new matter in the SUMMARY OF THE INVENTION. One of the replacement drawings and Claims 31-32 are each objected to as containing a typographical error. Claims 29-30 and 33 are rejected under 35 U.S.C. §102(e) as being anticipated by Shrader *et al.*, U.S. Patent Publication No. 2002/0077887, hereinafter SHRADER. Claims 31-32 are rejected under 35 U.S.C. §103(a) as being unpatentable over Cranor *et al.*, “Design and Implementation of a Practical Security-Conscious Electronic Polling System” (1996), hereinafter “CRANOR,” in view of SHRADER.

The new matter objection is unfounded for at least these reasons.

- One portion of the application cited as new matter, Figure 5, has already been entered.
- Deletion from the SUMMARY OF THE INVENTION of unclaimed subject matter does not amount to introduction of new matter.
- Conforming the SUMMARY OF THE INVENTION to claimed subject matter supported by original disclosure is required.
- The OA makes a mistake of fact in asserting that the original specification does not disclose “individual verifiability.”

The drawings and claims have been examined for errors. The typographical errors found have been corrected in replacement drawings and amended claims.

Neither of the pending art rejections establishes a *prima facie* case of unpatentability for at least the following reasons:

- The Recent OA mischaracterizes SHRADER and CRANOR, with the effect that the claims as submitted by the applicant, have not yet been examined. Mischaracterized terms include “cast ballots,” “vote serial number,” and “user.” In one portion, SHRADER even teaches against a mischaracterization made in the Final OA (i.e., including votes in a verification message).
- SHRADER discloses the wrong data, encrypted with the wrong key.
- The Recent OA mischaracterizes SHRADER and CRANOR to find a non-existent “user” in those references.
- The Recent OA mischaracterizes SHRADER in order to find a claimed comparison.
- The Recent OA neglects to account for an element of the Confirmation Token in Claim 31.

### ***Regarding the Specification***

The amended specification filed on 04/06/2007 (the “Amendment”) is objected to under 35 U.S.C. §132(a) as introducing new matter. The Recent OA asserts at P15 L06-10 that:

... revisions to Paragraph 0018, the removal of Paragraph 0023 in its entirety and the addition of a new figure, Figure 5 removes from the specification pertinent sections which disclose when a vote serial number is assigned to a ballot ...

The new matter objection is unfounded for several reasons.

One portion of the application cited as new matter, Figure 5, has already been entered. It was introduced by amendment submitted on 12/22/2005. Per the Office Action of 03/02/2006 Figure 5 was accepted by the Examiner. The Recent OA cites no features of Figure 5 to support the assertion that Figure 5 introduces new matter. Each aspect of Figure 5 correlates to original disclosure.

Deletion from the SUMMARY OF THE INVENTION of unclaimed subject matter does not amount to introduction of new matter. The Recent OA asserts, at P15, that the Amendment (*emphasis in the original*) :

... removes ... sections which disclose when a vote serial number is assigned to a ballot ... the originally filed specification ... discloses ... associating a vote serial number with a ballot *prior* to the ballot being cast ...

While the original specification disclosed and claimed embodiments where a VSN was assigned before votes were cast, e.g., [0018], [0023], Claim 1, that subject matter is not currently claimed in the application. Paragraphs [0018] and [0023] are portions of the original SUMMARY OF THE INVENTION corresponding to canceled claims.

Additionally, the embodiments described in original disclosure [0018] and [0023] are described as “*one aspect of the invention*” and “*an alternative aspect.*” Other portions of the original disclosure, e.g., [0054], Figure 2, Figure 3, disclose embodiments where the VSN is not part of the uncast ballot. Those embodiments are the subject of the pending claims.

Removal of disclosure from the SUMMARY OF THE INVENTION that is a) related to unclaimed subject matter, and b) not otherwise needed to support independently-supported alternative embodiments cannot constitute introduction of new matter. In fact, as argued next, removal of such disclosure from the SUMMARY OF THE INVENTION is **required**.

Conforming the SUMMARY OF THE INVENTION to claimed subject matter supported by original disclosure is **required**. 37 C.F.R. 1.73 requires:

Such summary ... should be commensurate with the invention as claimed.

The MPEP explains at §608.01 that:

... the summary should be directed to the specific invention being claimed ... [t]he brief summary should be consistent with the subject matter of the claims.

37 C.F.R. 1.73 and MPEP §608.01 **require** that the SUMMARY of the invention conform to the current claims, which call for assigning a VSN only after a cast ballot has been received (as supported by at least Fig 2, Fig. 3, [0054], and [0070] of the original disclosure).

The OA makes a mistake of fact in asserting that the original specification does not disclose “individual verifiability.” The Recent OA asserts at P16 L11 *et seq.*:

... the concept of individual verification was not explicitly disclosed in the originally filed specification.

Individual verifiability is disclosed in the original specification at least at [0060]-[0062] and Figure 2. A portion of [0060]-[0062] is illustrative (**bold** emphasis added):

[0060] *The two horizontal arrows 71 and 73 illustrate what is known as **individual verifiability**.*

[0062] *As may be appreciated from the discussion of **individual verifiability** ...*

For at least these reasons, the new matter objection should be withdrawn and the previously filed amendment entered.

The Recent OA goes on to imply that, since individual verifiability and VSN assignment are well known, the present claims are unpatentable. Note that the claims do not presume to exclude others from conducting individual verification or from assigning VSNs to cast ballots. The claims cover the steps a server would perform in a particular useful, novel, and non-obvious method for conducting individual verification - in part using a VSN applied to a cast ballot. Therefore, references that merely disclose the well-known concepts of individual verification and assignment of VSNs do not render the present claims unpatentable absent disclosing the particular method of the claims. The Recent OA then asserts that certain features of the claimed invention, e.g., that the VSN is not related to the voter, that individual verification is performed in part by or on behalf of a user, and that verification messages do not contain actual votes from the ballot, are not recited in the claim. When properly interpreted in light of the disclosure as amended, the claims themselves are sufficient to patentably distinguish the claimed invention from the references.

***Regarding the Drawings***

The Recent OA objects to Figure 3b as containing a typographical error, e.g., “Jron” instead of “Jrun.” A replacement drawing is provided with this response correcting that typographical error. The drawings have been reviewed for other errors and none were found.

***Regarding the Claim Objections***

The Recent OA objects to Claims 31-32 as containing a typographical error, e.g., a missing semicolon at the end of line 13 of Claim 31. The claim has been amended to correct that typographical error. The claims have been reviewed for other such errors and all were corrected.

***Regarding Claim Rejections - 35 USC §102 and Claim Rejections - 35 USC §103***

The reply submitted on 04/06/2007 clearly states the reasons that the Recent OA does not make a *prima facie* case of unpatentability with regard to the claims. Upon entry of the earlier-submitted amendment, it should be clear that the claims are allowable.

***Regarding Response to Arguments***

Regarding “cast ballot” and “vote serial number,” The Recent OA states at P03 L11-14:

... cast ballot: voted ballot, committed ballot, vote, completed ballot, submitted ballot, vote ...

... vote serial number: any unique vote <not “voter” or “uncast ballot”> identifier ...

The Recent OA goes on to cite sections of SHRADER and CRANOR illustrating the difference between uncast ballots, and cast ballots including votes. This definition of “cast ballot” is consistent with the use of those terms as claimed.

The Recent OA then cites sections of SHRADER and CRANOR applicable to the definition of VSN as claimed. Here the Final OA confuses a serial number assigned to a “vote” or “cast ballot” with an identifier assigned to an **uncast/pre-case/empty** ballot (bold emphasis added).

... Shrader et al. teach ... ballots, both cast and **pre-cast, are assigned a vote serial number** (unique identifier; Figure 6, Element 58; ballot number, Paragraph 0063 <sic, should be [0061]>;

*"creates a electronic ballot consisting of the unique election identification and **ballot serial number**"*

It is difficult to reconcile the Examiner's clear understanding of the difference between an “uncast ballot” and a “cast ballot”/“vote” (as evidenced by the Recent OA assertions regarding “cast ballot” and “vote serial number”) with the Examiner's assertion that i) a vote serial number can be assigned to a pre-cast ballot or b) that the “ballot serial number” of SHRADER is a “vote serial number.” Assigning a serial number to an pre-cast ballot (a ballot without votes) is not the same as assigning a serial number to a cast ballot (a ballot with votes). Getting this distinction right is key to properly examining the pending claims.

The Recent OA then goes on to identify portions of CRANOR that teaches use of a “16-byte digest” to index encrypted ballots. The Recent OA cites those portions as teaching use of a VSN. However, CRANOR goes on to note on the same page (P08 L17-18):

*... there is a very small chance that two or more voters may submit identical encrypted ballots. If this were to occur, only one of these ballots would get counted.*

This outcome is the result of the 16-byte digest being derived from the cast ballot instead of a sequential VSN being assigned to the cast ballot. This outcome is not possible with use of a VSN as disclosed and claimed in the present application. Hence, CRANOR's 16-byte digest teaches something other than VSN.

It is the Office's assertion of portions of the references (portions that do not disclose “cast ballot” and “vote serial number” consistent with these definitions and the claims) that

amounts to a mischaracterization. SHRADER Abstract, [0050]-[0053], [0060], [0063], and Figures 4-8 do **not** disclose verification of a cast ballot using a VSN; and neither does CRANOR.

***Request for Interview***

The undersigned requests that requests that the Examiner grant an in-person interview prior to issuing further Office Actions. Objectives of the interview would include confirmation that each amendment is supported by the original disclosure.



**CONCLUSION**

The foregoing is submitted as a full and complete response to the OA mailed 06/13/2007 . With consideration of the above amendments and remarks directed to the rejections, the undersigned submits that this application is in condition for allowance, and such disposition is earnestly solicited. No new matter has been added to the disclosure. An examination on the merits at your earliest convenience is respectfully requested. Please contact undersigned with any questions that will expedite prosecution.

Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 50-4402, and please credit any excess fees to such deposit account.

Respectfully submitted,

Date: December 13, 2007

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